

## ABSTRACT OF THE DISCLOSURE

There is provided a laser processing apparatus, a  
multilayer printed wiring board manufacturing apparatus, and  
5 a manufacturing method to form via holes of ultra-fine diameter.  
The laser beam from the CO<sub>2</sub> laser oscillator (60) is converted  
to the shortened wavelength beam by a tellurium crystal (94)  
to control diffraction of the laser beam. Simultaneously, when  
the laser beam is condensed, a limit value of the condensation  
10 limit is reduced. Thereby, the spot diameter of laser beam is  
reduced and a hole for via hole is bored on the interlayer  
insulation resin on a substrate (10). Therefore, even when the  
laser beam output is raised to form a deeper hole, the hole  
diameter is not widened and thereby a hole for a small diameter  
15 via hole can be formed.